

**MASSIVELY PARALLEL SIGNATURE SEQUENCING**  
**BY LIGATION OF ENCODED ADAPTORS**

**Abstract of the Invention**

The invention provides a method of nucleic acid sequence analysis based on the ligation of one or more sets of encoded adaptors to the terminus of a target polynucleotide. Encoded adaptors whose protruding strands form perfectly matched duplexes with the complementary protruding strands of the target polynucleotide are ligated, and the identity of the nucleotides in the protruding strands is determined by an oligonucleotide tag carried by the encoded adaptor. Such determination, or "decoding" is carried out by specifically hybridizing a labeled tag complement to its corresponding tag on the ligated adaptor.